

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. In this listing of claims, claims 1, 2, 4-6, 9-11 and 14 have been amended. Further, new dependent claims 15 to 18 have been added and claim 3 has been cancelled without prejudice.

Listing of Claims:

1. (Currently Amended) A flow field plate for a fuel cell, the flow field plate having a front side, for defining chambers with another complementary flow field plate and a membrane electrode assembly, and a rear side, the flow field plate including:

at least two apertures for a reactant gas for supply to said chambers, to provide for reactant gas flow adjacent to the membrane electrode assembly;

on the front side thereof, reactant gas flow channels;

for each of the apertures, an extension extending on the rear side of the flow field plate; and,

for each aperture, ~~at least one slot~~ a plurality of slots extending through the flow field plate from the back side to the front side thereof, the plurality of slots being disposed adjacent to the extension on the rear side of the flow field plate and adjacent to the reactant gas flow channels on the front side of the flow field plate to provide fluid communication between the corresponding extension and the reactant gas flow channels.

2. (Currently Amended) A flow field plate as claimed in claim 1, which includes sealing surfaces on the front and rear sides, for forming a seal with adjacent elements of the fuel cell, wherein the sealing surface on the front side of the flow field plate includes, for each aperture, a first sealing surface portion enclosing the corresponding aperture and separating ~~the~~ at least one slot plurality of slots from the corresponding aperture and on the rear side thereof, a second sealing surface portion enclosing together said ~~at least one slot plurality of slots~~ and the aperture.

3. (Cancelled) ~~A flow field plate as claimed in claim 2, which includes, for each of the apertures, a plurality of slots.~~

4. (Currently Amended) A flow field plate as claimed in claim 32, wherein each extension is provided with a plurality of projections offset from the corresponding aperture for providing at least one of, defining flow channels extending from between the corresponding apertures and to the plurality of slots, and structural support.

5. (Currently Amended) A flow field plate as ~~dis~~claimed in claim 32, which includes:

at least two second apertures for a second reactant gas;

on the ~~front~~ rear side thereof, for each second aperture, a second extension and a plurality of second projections provided in the second extension, for abutting complementary projections of a second flow field plate for the second reactant gas.

6. (Currently Amended) A flow field plate as claimed in claim 5, which includes, on the ~~rear-front~~ thereof, for each second aperture a ~~rear-second front~~ sealing portion enclosing the corresponding second aperture and on the ~~front-rear~~ thereof, a second, rear sealing portion enclosing the corresponding second aperture and associated second aperture extension, wherein the second front and rear sealing portions include sealing surface segments offset from one another.

7. (Original) A flow field plate as claimed in claim 6, wherein each sealing surface portion comprises a groove for receiving a seal.

8. (Original) A flow field plate as claimed in claim 6 or 7 which includes at least two third apertures for a coolant flow; on the rear side thereof, flow channels providing flow paths between the third apertures for the coolant; and on the front thereof sealing portions enclosing the third apertures.

9. (Currently Amended) A fuel cell assembly including at least one fuel cell, wherein each fuel cell comprises:

first and second complementary flow field plates, each including a front side and rear side, with the front sides facing one another and defining a fuel cell chamber;

a membrane electrode assembly and gas diffusion media provided within the fuel cell chamber;

at least two first apertures in each flow field plate for a first reactant gas and at least two second apertures in each flow field plate for a second reactant gas;

wherein the first flow field plate includes: first reactant gas flow channels on the front side thereof; first slots extending from the first reactant gas flow channels to the rear side thereof; for each of the first apertures thereof, on the rear side thereof, a first extension disposed between the first aperture and the corresponding first slots, for providing fluid communication therebetween ~~the first apertures thereof and said first slots;~~ and

wherein the second flow field plate includes: second reactant gas flow channels on the front side thereof; second slots extending from the second reactant gas flow channels to the rear side thereof; for each of the second apertures thereof, on the rear side thereof, a second extension disposed between the second aperture and the corresponding second slots for, providing fluid communication therebetween ~~the second apertures thereof and said second slots.~~

10. (Currently Amended) A flow field plate for a fuel cell, the flow field plate having a front side, for defining chambers with a complementary flow field plate and a membrane electrode assembly, and a rear side, the flow field plate including:

at least two apertures for a reactant gas for supply to said chambers, to provide for reactant gas flow adjacent to the membrane electrode assembly;

on the front side thereof, reactant gas flow channels;

for each of the apertures, an extension extending on the rear side of the flow field plate; and

for each aperture, at least one slot extending through the flow field plate

from the back side to the front side thereof, the at least one slot being disposed adjacent to the extension on the rear side of the flow field plate and adjacent to the reactant gas flow channels on the front side of the flow field plate to provide fluid communication between the corresponding extension and the reactant gas flow channels, wherein the flow field plate includes sealing surfaces on the front and rear sides, for forming a seal with adjacent elements of the fuel cell, wherein the sealing surface on the front side of the flow field plate includes, for each aperture, a first sealing surface portion enclosing the corresponding aperture and separating the at least one slot from the corresponding aperture and on the rear side thereof, a second sealing surface portion enclosing together said at least one slot and the aperture, and wherein each extension is provided with a plurality of projections offset from the corresponding aperture, defining flow channels extending from the apertures to the at least one slots, the projections also providing support for the respective first sealing surface portion.

11. (Currently Amended) A fuel cell assembly including at least one fuel cell, wherein each fuel cell comprises:

first and second complementary flow field plates including a front side and a rear side, with the front ~~surfaces~~ sides facing one another and defining a fuel cell chamber;

a membrane electrode assembly and gas diffusion media provided within the fuel cell chamber;

at least two first apertures in each flow field plate for a first reactant gas and at least two second apertures in each flow field plate for a second reactant gas;

wherein the first flow field plate includes: first reactant gas flow channels on the front side thereof; first slots extending from the first reactant gas flow channels to the rear side thereof; for each of the first apertures thereof, on the rear side thereof, a first extension disposed between the first aperture and the corresponding first slots for, providing fluid communication therebetween ~~the first apertures thereof and said first slots~~;

wherein the second flow field plate includes: second reactant gas flow channels on the front side thereof; second slots extending from the second reactant gas

flow channels to the rear side thereof; for each of the second apertures thereof, on the rear side thereof, a second extension disposed between the second aperture and the corresponding second slots for, providing fluid communication therebetween ~~the second apertures thereof and said second slots~~;

wherein the first flow field plate includes sealing surfaces on the front and rear sides, for forming a seal with adjacent elements of the fuel cell, wherein the sealing surface on the front side of the first flow field plate includes, for each first aperture, a first sealing surface portion enclosing the corresponding first aperture and separating the at least one first slots from the corresponding first aperture, and on the rear side thereof, a second sealing surface portion enclosing together said at least one first slot and the corresponding first aperture;

wherein the second flow field plate includes sealing surfaces on the front and rear sides, for forming a seal with adjacent elements of the fuel cell, wherein the sealing surface on the front side of the second flow field plate includes, for each second aperture, a first sealing surface portion enclosing the corresponding second aperture and separating the at least one second slots from the corresponding second aperture, and on the rear side thereof, a second sealing surface portion enclosing together said at least one second slot and the corresponding second aperture; and

wherein, on each of the first and second flow field plates, each of the first and second extensions is provided with a plurality of projections offset from the corresponding aperture, defining flow channels extending from the apertures to the respective first and second slots.

12. (Previously presented) A fuel cell assembly as claimed in claim 11, including a plurality of fuel cells, wherein, for adjacent fuel cells, the rear sides of the first and second flow field plates abut one another, and wherein the second flow field plates include on the rear sides thereof a plurality of projections corresponding and abutting the projections of the first flow field plates and defining flow channels corresponding to the first extensions, to increase the flow cross section between the first apertures and the first slots, and the first field flow plates include on the rear sides thereof a plurality of projections corresponding and abutting the first-mentioned projections of the second

flow field plates and defining flow channels corresponding to the second extensions, to increase the flow cross section between the second apertures and the second slots.

13. (Previously presented) A fuel cell assembly as claimed in claim 12, wherein the first and second flow field plates are substantially rectangular and, for each flow field plate, the at least two first apertures are provided on diagonally opposite corners, and the second apertures are provided on the other diagonally opposite corners.

14. (Currently Amended) A flow field plate for a fuel cell, the flow field plate having a front side, for defining chambers with a complementary flow field plate and a membrane electrode assembly, and a rear side, the flow field plate including:

at least two apertures for a reactant gas for supply to one of said chambers, to provide for reactant gas flow adjacent to the membrane electrode assembly;

on the front side thereof, reactant gas flow channels;

for each of the apertures, an extension extending on the rear side of the flow field plate; and

for each aperture, a plurality of slots extending through the flow field plate from the back side to the front side thereof, wherein each of the plurality of slots is disposed adjacent to the extension on the rear side of the flow field plate and adjacent to the reactant gas flow channels on the front side of the flow field plate to provides fluid communication between the corresponding extension and reactant gas flow channels, and wherein each of the plurality of slots is connected to more than one of the reactant gas flow channels.

15. (New) A flow field plate as claimed in claim 1, wherein each of the plurality of slots is connected to more than one of the reactant gas flow channels.

16. (New) A flow field plate as claimed in claim 9, wherein each of the first slots is connected to more than one of the first reactant gas flow channels and each of the second slots is connected to more than one of the second reactant gas flow channels.

17. (New) A flow field plate as claimed in claim 9, wherein each first extension is provided with a plurality of projections offset from the corresponding first apertures for providing at least one of flow channels between the corresponding first apertures and the first slots, and structural support; and wherein each second extension is provided with a plurality of projections offset from the corresponding second apertures for providing at least one of flow channels between the corresponding second apertures and the second slots, and structural support.

18. (New) A flow field plate as claimed in claim 11, wherein each of the first slots is connected to more than one of the first reactant gas flow channels and each of the second slots is connected to more than one of the second reactant gas flow channels.